## Case Studies – Case 8

### Case 8

<table>
<thead>
<tr>
<th>Background</th>
<th>The next case study is located at the intersection of a U.S. highway and a local major arterial roadway in a large metropolitan area. This location is also within one of the community's larger commercial shopping areas, which includes a regional mall, as shown in Figure 8.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway and Land Use Characteristics</td>
<td>The intersection at the center of this case study is signalized. In addition, another signalized intersection is located approximately 950 feet to the north, and two signalized intersections that serve as accesses to a regional mall can be found 1,000 feet to the west and 1,600 feet to the south of the case study intersection. Traffic volumes on the east-west arterial vary between more than 18,000 vehicles per day (VPD) west of the intersection to approximately 8,200 VPD to the east. Volumes on the north-south U.S. highway vary from approximately 17,300 VPD south of the intersection to more than 26,000 VPD to the north. Both roadways are largely four-lane divided facilities with occasional median breaks, although the east leg tapers to a two-lane undivided road approximately 450 feet from the intersection at the center of this case study. The U.S. highway speed is posted at 45 mph throughout most of the study area but changes to 55 mph near the southern limits of the study area. The major arterial is posted at 40 mph. As shown in Figure 8, there are a variety of land uses located around this intersection. The commercial uses include several big box retailers, a few gas station/convenience stores, both sit-down and fast-food restaurants, banking, office, other general and strip retail businesses, and the large regional mall in the southwest quadrant of the study area. Besides these commercial uses, there are apartment buildings and mobile homes located nearby but farther out from the case study intersection.</td>
</tr>
<tr>
<td>Access Characteristics</td>
<td>Access is largely well-managed at this case study location. The south leg of the study intersection is highly access-controlled, with continuous raised medians and access points limited to an unsignalized intersection approximately 600 feet south of the case study intersection and a signalized intersection another 1,000 feet farther south. Both of these intersections provide access to the regional mall and development in the southeast quadrant of the study area. Along the west leg, a right-in, right-out only access is provided on the north side of the arterial at approximately 550 feet west of the case study intersection, with a full signalized intersection about 450 feet farther west. A second right-in, right-out only access is located on the north side of the roadway another 250 feet west. On the north leg, a full unsignalized access approximately 450 feet north of the case study intersection serves a considerable number of businesses in the northwest and northeast quadrants of the study area. As shown in Figure 8, developments in these two quadrants also utilize backage roads and cross access between several businesses. A full signalized intersection is located another 500 feet north, providing additional access to these areas. Along the east leg where traffic volumes are relatively low, a</td>
</tr>
</tbody>
</table>
Case Studies – Case 8

Figure 8. Case Study 8
Observations

As noted before, access is largely well-managed at this case study location. Positive applications of access management here include:

+ Consolidation of access for several businesses into relatively few access points;
+ Use of raised medians throughout the study area to delineate travel lanes and remove most left turns from the through traffic stream;
+ Restriction of all direct driveway accesses along the high-volume, high-speed south leg;
+ Use of protected left turns and dedicated left-turn bays at signalized intersections;
+ Alignment of driveways across from each other at full-access (median break) locations; and
+ Use of minor supporting roadways and cross access between land uses to improve internal traffic circulation off the main roadways.

There are a few possible areas of improvement at this location. Negatives for this case study, as well as possible remedies, include:

- Relatively high driveway density on the east leg—driveways could be consolidated and/or cross access used to connect properties and businesses in this area;
- Relatively short distance from the study intersection to the first driveways on the east leg—the westernmost driveways on both sides could be relocated farther east or consolidated, and
- Lack of connectivity between some development in the northeast quadrant and development directly to the east and to the north—internal connections/access could be provided.

In summary, this case study demonstrates good access management practice. The access management techniques utilized at this location appear to have had a positive effect on safety. When analyzing crash data, it was found that, traditionally, access-related crashes are rare in this area. Nonetheless, as with many locations, access management improvements could still be made, especially as traffic volumes increase as development expands.